

# SR UNIVERSITY

## AI ASSISTED CODING

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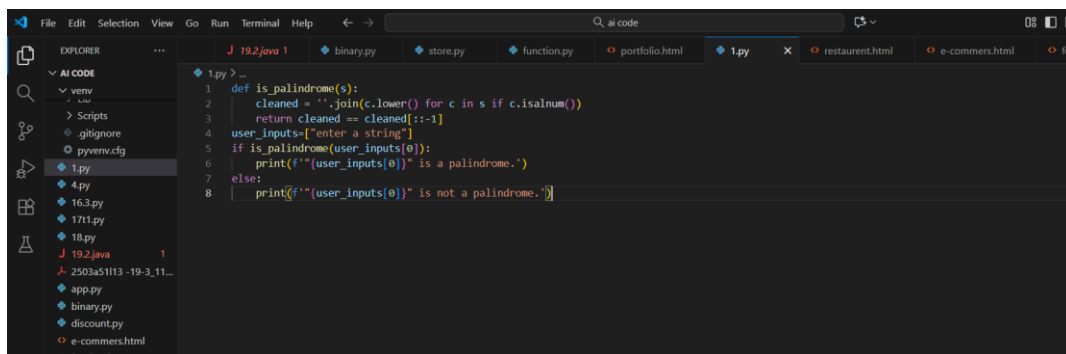
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### TASK #1:

#### Prompt Used:

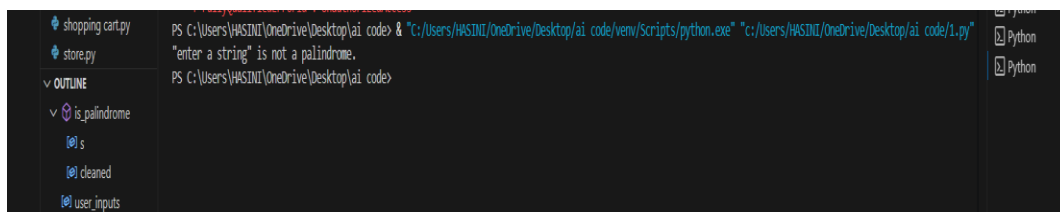
Write a comment: # Function to check if a string is a valid palindrome (ignoring spaces and case) and allow Copilot to complete it.

#### Code Generated:



```
1.py > ...
1 def is_palindrome(s):
2     cleaned = ''.join(c.lower() for c in s if c.isalnum())
3     return cleaned == cleaned[::-1]
4 user_inputs=["enter a string"]
5 if is_palindrome(user_inputs[0]):
6     print(f'{user_inputs[0]} is a palindrome.')
7 else:
8     print(f'{user_inputs[0]} is not a palindrome.')
```

#### Output:



```
PS C:\Users\HASINI\OneDrive\Desktop\ai code> & "C:\Users\HASINI\OneDrive\Desktop\ai code\venv\Scripts\python.exe" "c:\Users\HASINI\OneDrive\Desktop\ai code\1.py"
"enter a string" is not a palindrome.
PS C:\Users\HASINI\OneDrive\Desktop\ai code>
```

#### Observations:

- It cleans the input by removing all non-alphanumeric characters and converting everything to lowercase, ensuring accurate results regardless of punctuation, spacing, or case.
- Checks for palindrome by comparing the cleaned string to its reverse (cleaned[::-1]). If both match, the string is a palindrome.

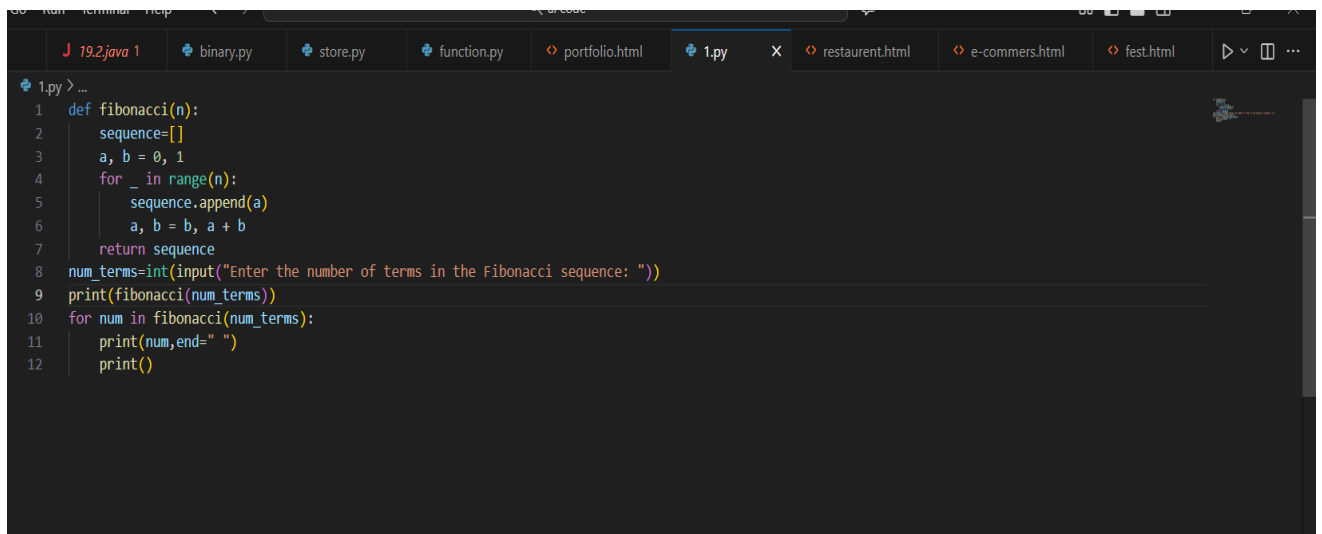
- Works for sentences and phrases (not just single words), as spaces, punctuation, and cases are ignored in the check.

## TASK #2:

### Prompt Used:

Generate a Python function that returns the Fibonacci sequence up to n terms. Prompt with only a function header and docstring.

### Code Generated:



```
1 def fibonacci(n):
2     sequence=[]
3     a, b = 0, 1
4     for _ in range(n):
5         sequence.append(a)
6         a, b = b, a + b
7     return sequence
8 num_terms=int(input("Enter the number of terms in the Fibonacci sequence: "))
9 print(fibonacci(num_terms))
10 for num in fibonacci(num_terms):
11     print(num,end=" ")
12     print()
```

### OUTPUT:



```
PS C:\Users\WASINI\OneDrive\Desktop\ai code> "C:/Users/WASINI/OneDrive/Desktop/ai code/venv/scripts/python.exe" "C:/Users/WASINI/OneDrive/Desktop/ai code/1.py"
Enter the number of terms in the Fibonacci sequence: 7
[0, 1, 1, 2, 3, 5, 8]
```

### Observations:

- The code generates the Fibonacci sequence up to a user-specified number of terms using a simple iterative approach.

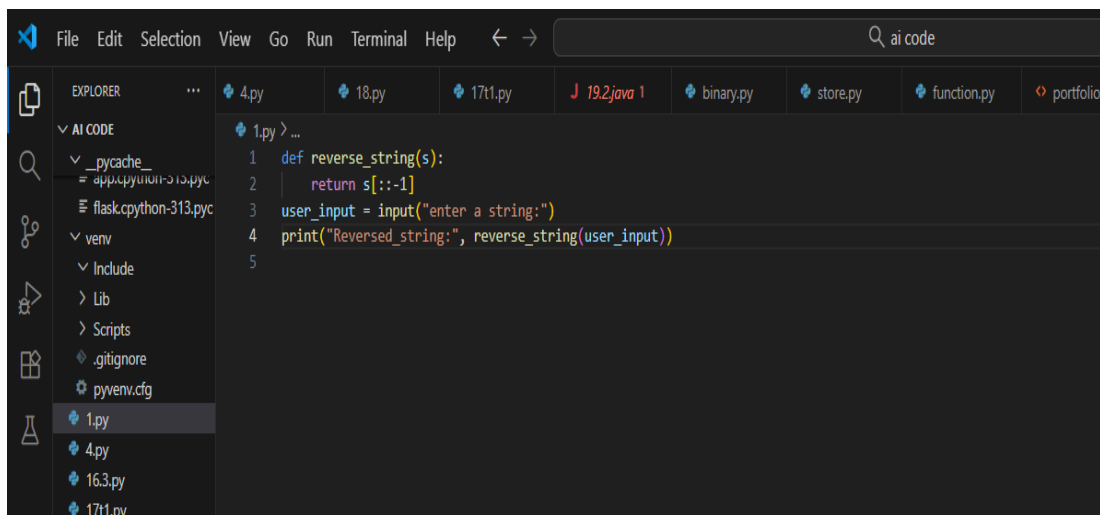
- The sequence is generated by initializing the first two terms ( $a = 0$ ,  $b = 1$ ) and iteratively updating them with  $a, b = b, a + b$ , ensuring each new term is the sum of its two immediate predecessors.
- Each generated term is stored in a list, which is then returned and printed.

### TASK #3:

#### Prompt Used:

Write a comment like # Function to reverse a string and use Copilot to generate the function.

#### Code Generated:

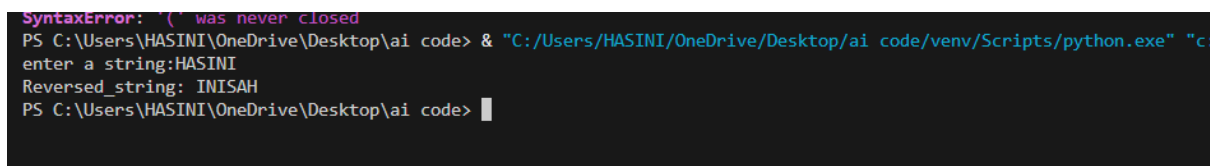


```

1.py > ...
1 def reverse_string(s):
2     return s[::-1]
3 user_input = input("enter a string:")
4 print("Reversed_string:", reverse_string(user_input))
5

```

#### Output:



```

SyntaxError: '(' was never closed
PS C:\Users\HASINI\OneDrive\Desktop\ai code> & "C:/Users/HASINI/OneDrive/Desktop/ai code/venv/Scripts/python.exe" "c:\
enter a string:HASINI
Reversed_string: INISAH
PS C:\Users\HASINI\OneDrive\Desktop\ai code>

```

#### Observations:

- The function uses Python's string slicing syntax `s[::-1]` to reverse the string.
- The slice step of `-1` means characters are taken from end to start, effectively reversing the string.

- User input is taken and passed to the function, with the reversed result printed.

## TASK #4:

### Prompt Used:

Generate a program that simulates a basic calculator (add, subtract, multiply, divide). Write the comment: # Simple calculator with 4 operations and let AI complete it.

### CODE GENERATED:

```

1 # Simple calculator with 4 operations
2
3 def calculator(a, b, operation):
4     print('select operation:')
5     print('1. Addition')
6     print('2. Subtraction')
7     print('3. Multiplication')
8     print('4. Division')
9     choice = input('Enter choice (1/2/3/4): ')
10    num1=float(input("Enter first number: "))
11    num2=float(input("Enter second number: "))
12    if choice == '1':
13        print("result:", num1 + num2)
14    elif choice == '2':
15        print("result:", num1 - num2)
16    elif choice == '3':
17        print("result:", num1 * num2)
18    elif choice == '4':
19        if num2 != 0:
20            print("result:", num1 / num2)
21        else:
22            print("Error: Division by zero")
23    else:
24        print("Invalid input")

```

### OUTPUT:

```

SyntaxError: '(' was never closed
PS C:\Users\HASINI\OneDrive\Desktop\ai code> & "C:/Users/HASINI/OneDrive/Desktop/ai code/venv/Scripts/
enter a string:HASINI
Reversed_string: INISAH
PS C:\Users\HASINI\OneDrive\Desktop\ai code> & "C:/Users/HASINI/OneDrive/Desktop/ai code/venv/Scripts/
Enter choice (1/2/3/4): 3
Enter first number: 3
Enter second number: 8
result: 24.0
PS C:\Users\HASINI\OneDrive\Desktop\ai code>

```

### Observations:

- The function uses Python's string slicing syntax `s[::-1]` to reverse the string.
- The slice step of `-1` means characters are taken from end to start, effectively reversing the string.
- User input is taken and passed to the function, with the reversed result printed.